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**REMARKS**

The Applicants would like to thank the Examiner for review of the present application. Claims 1-43 are pending in the present application. Claims 1-18, and 20-43 were rejected under 35 USC 103(a) as being unpatenable over Ichise et al (4,897,714) in view of Tuttle (6,509,829). Claim 19 was rejected under 35 USC 103(a) as being unpatentable over Ichise et al and Tuttle in further view of Wallman (6,048,024).

**Claims 1-18, and 20-43 rejected under 35 USC 103(a)**

Claims 1-18, and 20-43 were rejected under 35 USC 103(a) as being unpatenable over Ichise et al (4,897,714) in view of Tuttle (6,509,829). The Examiner's position is that Ichise et al shows the details of the seat mounted monitoring system with the exception of the wireless connections and Identifications. The Examiner that asserts that Tuttle teaches wireless identification and security tags that in combination with Ichise render the claims of the present invention obvious.

The Applicant respectfully traverses the Examiner's rejections and requests reconsideration. The Applicant notes that the Tuttle reference teaches the use of wireless security within the confines of an airport (a permanently located structural building) wherein large scale monitoring and security is presently common-place (if not wireless). The present invention, however, utilizes such wireless security within the interior of an aircraft which is a wholly novel idea. Wireless transmission within the aircraft interior have traditionally been avoided due to concerns with navigation equipment. Furthermore, the present invention's utilization of wireless communication allows flexibility to be used on the runway (where most pre-flight checking is presently accomplished) or in the air. The present invention utilizes wireless locating and identification for improved pre-flight checking and in-flight security. This novel concept is neither taught nor discussed by either of the cited references. The Applicant therefore submits that improper motivation to combine has been established. In addition, the Applicant has listed below a point by point discussion of several of the patentably novel features claimed by the present invention that are not addressed or taught by the cited art.

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**Claim 19 was rejected under 35 USC 103(a)**

Prior to the point by point novelty discussion, however, the Applicant would like to address claim 19. Claim 19 was rejected under 35 USC 103(a) as being unpatentable over Ichise et al and Tuttle in further view of Wallman (6,048,024). The Examiner's position is that the placement of the gasper fan into the seat back is rendered obvious in light of Wallman. The Applicant notes that Claims 27 and 28 should like by grouped in this rejection by the Examiner and therefore the Applicant asserts the following arguments are appropriate to claims 19, 27, and 28.

The Applicant respectfully traverses this rejection. The seat cooling features taught in Wallam are not the equivalent of an aircraft gasper fan system. The gasper fan system in an aircraft controls airflow throughout an aircraft cabin. It is part of an air-recirculation and conditioning environmental controls. This is not what is taught by Wallam which simply teaches seat-ventilation. Moving the gasper fan into the seat module provides novel and improved aircraft design performance by increasing overhead bin capacity. This is not taught, discussed, or rendered obvious by the cited art. Therefore, the Applicant submits that the rejection is improper and should be reconsidered. There is insufficient motivation to combine these references to arrive at the limitations of the present invention.

**Points of Novelty of the Present Invention Novel over Cited art**

In addition to the above traverses, the Applicant feels it may be beneficial to clearly identify several of the points of novelty claimed by the present invention not taught by the cited art either alone or in combination. The Applicant hopes the Examiner finds this helpful.

**Additional point of novelty 1**

Logic within the individual seat processors adapted to generate personalized instructions regarding the operational status of the seat options. (Claim 11-amended into claim 1, Claim 32, and Claim 39 amended into Claim 38)

The present invention includes the above limitation not taught or discussed in any of the cited references. The present invention allows individual passengers to be personally instructed

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as to the status of their seat options. In other words, the present invention not only allows a pre-flight check to be performed from a main-station in the aircraft, but also allows individual passengers to be specifically instructed in rendering compliance with pre-flight requirements. This is not taught nor rendered obvious by the cited art. Additionally, it provides extremely valuable and time saving benefits to existing aircraft functioning. The Applicant, therefore submits that these claims are patentable over the cited art.

**Additional point of novelty 2**

Built in test equipment functionality integrated in the ECS within the seat module. (claims 30 amended into claim 23, claim 9).

This is not taught by the cited art, nor is in a simple obvious modification thereof. The present invention teaches and claims the use of test equipment integrated into each seat ECS that allows testing and reporting to the main system of failures and tampering of seating equipment and features. This is highly novel and unique in that it integrates self diagnostic features within individual seats. This provides unique benefits as when new seats or new features modules are installed, the system within the aircraft can automatically adjust to not only the new features but monitoring their failure/tampering as well. This provides unequalled flexibility in design and modifications. The Applicant, therefore, submits that these claims should be patentable over the cited art.

**Additional point of novelty 3**

The break down of features and control of such features into essential and non-essential seat options (claims 2, 12,13, 33, 41)

The present invention claims a patentably novel approach to control of seat options. By dividing these features into essential and non-essential options, the present invention allows such features to be selectively powered such as to conserve energy and fuel within the aircraft. Claim 2 teaches the use of independent transmitters to handle essential and non-essential function transmissions.

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Claim 12 contains additional novelty in as much as it claims the reduction in power consumption by removing power from non-essential seat options. Claims 13, 33, and 31 have even more limitations not taught by the cited art. They claim sensing seat occupation and removing power from non-essential seat options when the seat is unoccupied. This is patentably distinct and should be afforded its full patentable weight. This limitation is not taught by the cited art either alone or in combination and therefore should be allowed.

**Additional point of novelty 4**

The use of a portable wireless devices as the central monitoring system (claims 3 and 29).

This is a significantly patentably distinct features claimed by the present invention. It is not taught nor addressed by the cited art. This feature is far more than simply the use of a PDA. The use of the portable wireless devices as the central monitoring system provides flight crew with unparalleled utility. The flight crew have a host of responsibilities during a flight. They act as instructors, inspectors, servers, waitresses, and such. Therefore, they are often in relatively constant action during a flight. A central monitoring system, however, would traditionally dictate a central location. This either requires a dedicated staff member to monitor, or for such a system to be unmonitored for periods of time. The present invention, however, allows for such information to be transferred and controlled from a portable devices such as a PDA wherein the flight crew can perform inspections and locate problems from anywhere in the aircraft. This limitation is not taught by the cited art either alone or in combination and therefore should be allowed.

**Additional point of novelty 5**

The use of RF tags and reporting on literature (claims 14,34,43)

Again, this limitation should not be lightly dismissed but should be considered in combination with the underlying claim features. No cited references teach the ability to monitor the presence of aircraft literature such as pre-flight instructions in each seat. Inspections must still be performed on each seat to insure compliance in cited references. The present invention, however, allows seats without literature to be quickly and efficiently identified and isolated for

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treatment. The teaching of Ichise in regards to the tracking of baggage within a terminal is not comparable outside of the use of ID tags. The present of literature reported by EACH seat generates a unique and discreet region of inspection for each seat that allows its Internal ECS to evaluate and report back. This is not taught by the cited references and should be allowed.

**Additional point of novelty 6**

The use of an identity sensor in the seat (claims 15,35,40)

The Examiner asserts that Ichise by teaching tracking passengers in the terminal renders this limitation obvious. The Applicant respectfully traverses this assertion. Identity sensing within the aircraft interior is much more than a mere extension of Ichise and is non-obvious. First as stated above, prior art teaches away from the use of wireless features within an aircraft interior for concerns with interference. Second, such identification is highly novel in the structural scenario as claimed. It allows verification of correct passenger seating. It provides air-marshals to monitor or research questionable passengers and be notified of their exiting their seat. If an accident occurs, the claimed system provides invaluable and presently non-existent information on precise occupant seating within the aircraft interior.

Similarly, the use of transmitters in the boarding passes (claims 16,36) is additionally further patentable. While this sounds similar to the ID cards taught in Ichise, it is a far more novel concept than Ichise. The use of boarding passes with such identity sensors in them allows a coordination of identity and proper seating verification within the aircraft interior that has previously even been contemplated. Improper boarding or seating at present (and in Ichise) would still be subject to human inspection and error. The present invention allows for a more efficient and accurate boarding and seating. The Applicant therefore requests reconsideration.

**Point of novelty 7**

The use of a vision system to identify passengers (claims 17,18,37,42)

This alone bears great novelty and patentable material. An on-aircraft vision identification system is far beyond any art. It allows passengers to be identified by appearance or compared to database of visual identities. This is highly useful. Terrorists or criminals may



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be unlikely to purchase tickets, board, or identify themselves with proper id labeling themselves as such. A passenger identification system is only useful if it is difficult to fool. A vision system (unlike Ichise or similar references) does not rely on passenger integrity. Furthermore, it allows on-board air marshals or the like to identify subjects worthy of further investigation. These limitations are not taught either alone or in combination within the cited references and therefore should be granted patentability.

**Point of novelty 8**

Adapting airline environmental flow control to adapt to seat occupation (claim 22).

The present invention claims optimizing environmental airflow in response to sensed seat occupation. This allows the environmental system to be optimized for the number of passengers and their positions within the aircraft. This is not only highly efficient but may also significantly improve perceived passenger comfort. This is not taught, discussed, nor rendered obvious by the cited references either alone or in combination. No cited references even discuss adapting environmental controls as a result of seat occupation.

**Point of novelty 9**

A battery backup assembly within each seat element (claim 7).

This is not taught by the cited references nor should it be dismissed as obvious. A battery back up in combination with the wireless communication network between each individual seat and a main controller allows main power to be switched off during takeoff/landing as is commonly done while still allowing each passenger's seat to remain fully functional. Therefore, communication between crew and passengers may be maintained and personalized instructions generated within each seat are still powered.

**Point of novelty 10.**

Dividing the ship to seat power connection into a essential and nonOessential power connection. (claim 21)

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This limitation is not taught by the cited references and is patentably novel. It allows the cabin functionality (seat functionality) to be easily switched off during periods of large power draw without impacting essential power. Thus considerable power savings may be realized (i.e. as discussed in relation to seat occupation) without de-powering essential features (such as oxygen or call button etc). This is not taught nor rendered obvious by any cited references either alone or in combination and therefore should be allowed.

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**CONCLUSION**

The Applicants would like to thank the Examiner for his assistance. In light of the above amendments and remarks, Applicants submit that all objections and rejections are now overcome. Applicants have added no new material to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited.

Should the Examiner have any questions or comments that would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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